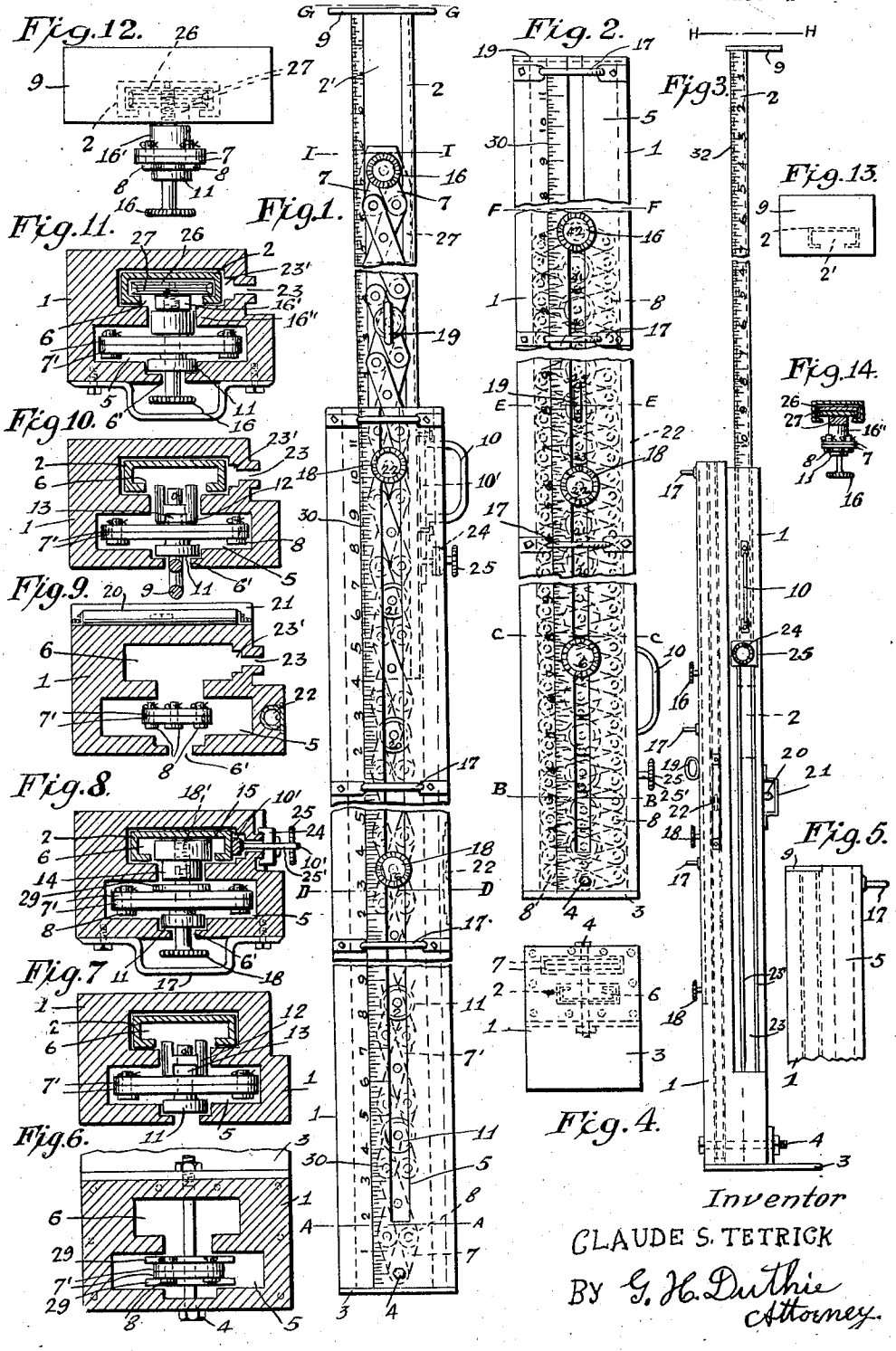
Jan. 18, 1927. 1,614,577

C. S. TETRICK

COMBINATION SPACER STORY POLE

Filed March 16, 1925 2 Sheets-Sheet 1



Inventor

CLAUDE S. TETRICK

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Fig. 15.

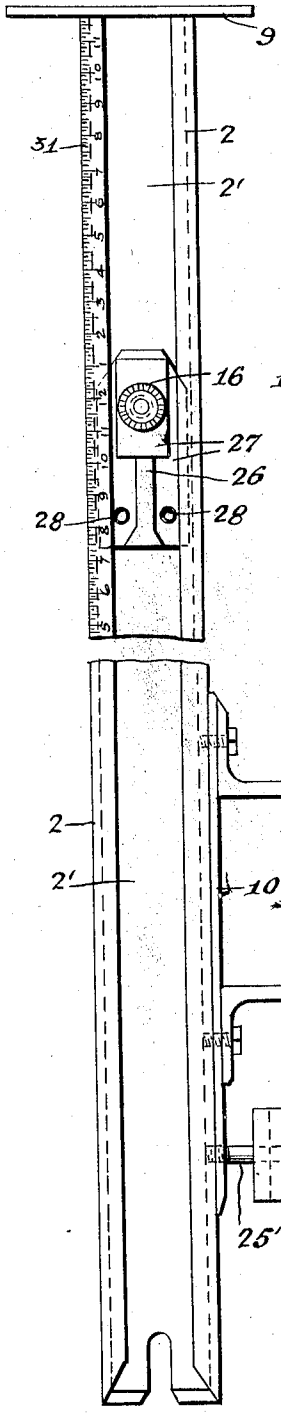


Fig. 16.

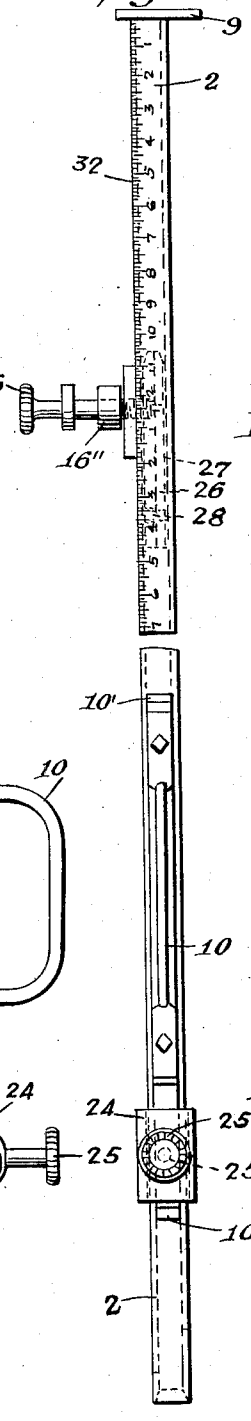


Fig. 19.

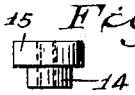


Fig. 20.

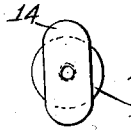


Fig. 21.

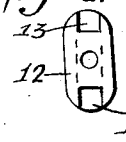


Fig. 22.

Fig. 17.

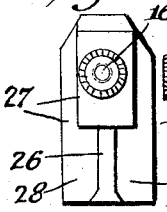


Fig. 18.

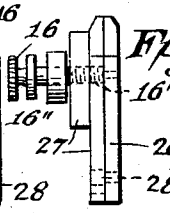


Fig. 24.

Fig. 23.

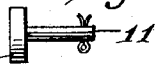


Fig. 25.

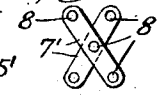
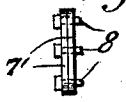


Fig. 26.



Inventor:

CLAUDE S. TETRICK,

By G. H. Duthie

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Patented Jan. 18, 1927. 1,614,577

UNITED STATES PATENT OFFICE.

CLAUDE S. TETRICK, OF CLARKSBURG, WEST VIRGINIA.

COMBINATION SPACER STORY POLE.

Application filed March 16, 1925. Serial No. 15,919.

This invention relates to new and useful improvements in an expansion story-pole, combining a level, plumb and spacing device.

The main object of this invention is the construction of an expansion device for measuring height, leveling, plumbing and spacing the courses of brick, tile, stone or other material used in the construction of walls, and especially adapted for masonry work and carpenter construction work.

With the foregoing and other objects in view, as will more fully appear as the description proceeds, it will be observed that my improved device consists of an expansion story-pole, designed for measuring height and space, constructed of any suitable material, aluminum preferred, as will hereinafter be more fully described, illustrated and claimed; but it is to be understood that several changes may be made in the proportions and construction of this device without departing from the spirit and intent thereof.

I attain these objects by means of the novel construction and mechanism illustrated in the accompanying drawings, in which:—

Figure 1 represents a plan view of my device in its drawn or open position.

Figure 2 represents a plan view of said device, in its closed position.

Figure 3 represents a side elevation.

Figure 4 represents the lower end of the case.

Figure 5 represents a short section side view of the upper end of the case.

Figure 6 represents a cross section of the device on the line A—A.

Figure 7 represents a cross section on line B—B.

Figure 8 represents a cross section on the line C—C.

Figure 9 represents a cross section on the line D—D.

Figure 10 represents a cross section on the line E—E.

Figure 11 represents a cross section on the line F—F.

Figure 12 represents the end elevation of the story-pole rule on the line G—G, also the clamping means.

Figure 13 represents the upper end view of the story-pole, on the line H—H.

Figure 14 represents a cross section on the line I—I.

Figure 15 represents a plan view of the story-pole moved from the case.

Figure 16 represents a side elevation of said story-pole.

Figure 17 represents a plan view of the three-part clamping member.

Figure 18 represents a side elevation of said clamping member.

Figure 19 represents an elevation of the guide member.

Figure 20 represents a plan view of said guide member.

Figure 21 represents a plan view of the guide member.

Figure 22 represents a side elevation of the guide member.

Figure 23 represents a side view of pivot pin.

Figure 24 represents an end view of said pivot pin.

Figure 25 represents a plan view of two of the expansion spacer links, removed from the casing.

Figure 26 represents a side view of said spacer links.

Figures 6 to 12, inclusive, represent enlarged cross sections of the story-pole, spacer and casing.

Figures 15 and 16 represent enlarged views of the story pole spacing rule.

Referring to the drawings, similar numerals refer to similar parts, throughout the several views.

Numeral 1 designates the casing portion of the story-pole spacing device; numeral 2 designates an adjustable story-pole rule; numeral 2′ designates a longitudinal groove in the spacing rule; numeral 3 designates the lower flange end of the casing; numeral 4 a bolt which binds the lower flange to the casing, adapted to pivotally engage the lower ends of the two expansion links, 7; numeral 5 the longitudinal groove within the casing, adapted to engage the expansion spacing links in a sliding manner; 6 the upper longitudinal communicating groove within the casing, adapted to engage the story-pole rule, in a sliding manner; 7 expansion links, pivotally attached, by means of bolt 4, to the lower end of the casing, the upper end of said expansion links 7, adjustably attached to the story-pole rule; 7′ numerous expansion links, forming a spacing connection between expansion links 7; 8 the numerous pivot pins, adapted to engage the

ends and center of the expansion links 7′; 9 the upper end flange of the story-pole rule; 10 the carrier handle; 10′ the filler, rigidly attached to the carrier handle and the story-pole rule, adapted to engage the groove 23′ in a sliding manner; 11 a pivot pin, adapted to engage the expansion links 7′ and the guide member 12, as shown in Fig. 7; 11′ a reading gauge line, on the head of pivot pins, 11, also on pivot pins under the screw wheels 16, 18 and 19 (see Figs. 1 and 24); 13 a vertical groove in the ends of guide member 12 (see Figs. 10 and 21); 14 and 15 the two-part guide and clamping member adapted to engage the casing groove in a sliding manner (see Fig. 8); 16 an adjustable screw wheel; 16′ the threaded stem, extending from the screw wheel 16, through pivot pin 11 adapted to engage the clamping members 26 and 27, as shown in Figures 1, 11, 16 and 18; 16″ a guide member on said stem adapted to engage the casing groove 5, in a sliding manner; 17 loop handles, rigidly attached, crosswise, upon the casing surface; 18 screw wheels; 18′ threaded stems, extending from the said screw wheels, through two of the pins 11 adapted to engage the clamping members 14 and 15, as shown in Figs. 1 and 8; 19 a special loop handle on the upper end of one of the pivot pins 11, as shown in Fig. 10; 20 a plumbing, spirit level, adjustably attached in a crosswise position, to the casing, as shown in Figs. 3 and 9; 21 a guard protecting said spirit level; 22 a leveling spirit level, adjustably attached within a groove, on the side of the casing, as shown in Figs. 1, 3 and 9; 23 a longitudinal groove extending from the outer edge of the casing to the inner groove 6 (see Fig. 3); 23′ the inner enlarged portion of groove 23 (see Fig. 9); 24 a binding clamp, adapted to engage the projecting flange 23″, in a sliding manner (see Figs. 3, 8, 9 and 16); 25 a small hand wheel (see Fig. 15); 25′ a threaded stem, extending from said hand wheel, through the binding clamp 24, and engaging, by thread means, the filler 10′ of the carrier handle 10 and the story-pole; (see Figs. 1, 8, 15 and 16); 26 and 27 a three-part clamping member, adapted to engage in a sliding manner, the longitudinal groove 2′ of the story-pole rule (see Figs. 1, 11, 15 and 16); 28 dowel pins, adapted to engage in a sliding manner, the clamping members 26 and 27 (see Figs. 17 and 18); 29 a washer on the threaded clamping stem, 18′ (see Fig. 8); 30 designates the graduated rule portion of the story-pole case, divided into feet, inches and fractions thereof (see Figs. 1 and 2); 31 designates the graduated rule portion on the surface of the story-pole rule, divided into feet, inches and fractions thereof; 32 designates the graduated, ruled edge of the story-pole rule (see Fig. 3).

It is to be understood that my combination story-pole may be made in various lengths, as the trade may require; that the scale graduation on the casing surface, begins at the lower end of the casing and is ruled upward to the end thereof. The same graduation continues on the same line, upon the surface of the story-pole rule, to the end thereof, and may constitute a total length of 10 or 20 feet. The reading of said scale begins with the reading gauge line 11′, upon the head of the lower pivot pin 11 (see Fig. 2). For reading purposes it will be observed that the numerous pivot pins 11 are all numbered on the surface of the head of said pins, just above the reading gauge line, beginning with the lower pin 11, designated as 1, the second pin as 2, the numerals increasing in like ratio to and including the last pivot pin, connecting the expansion links (see Figures 1 and 2). It will be observed further that the graduations on the edge of the story-pole rule begin at its upper end and are scaled downward. By means of this scale graduation the distance being measured is quickly and accurately ascertained as to feet, inches and fractions thereof (see Figures 1, 3, 15 and 16).

It will further be observed that, when not in use, my story-pole device will usually be in the closed position, as shown in Fig. 2, representing a length equal to the casing; that, when it becomes desirable to lengthen said story-pole the user will loosen the screw wheel 25, and, by means of handle 10, the story-pole can readily be moved outward, its full length, from within the casing, as shown in Figures 1 and 3. It will also be understood that by adjusting the expansion spacing links, as connected with the reading gauge line pins, the courses of brick, tile or other material used in the construction of walls, can be accurately measured and spaced, as to the courses and mortar joints. This device is also adapted to accurately level and plumb walls under construction.

To illustrate: When using my story-pole combination, loosen the clamping wheel 16, and extend the story-pole rule to its full length; then tighten the clamping wheel 25, which securely binds the rule to the casing. If the wall space to be filled with brick measures say, 7 feet 9⅝ inches, it may require 31 or 32 courses of brick, including the usual mortar joints. In order to divide said space into 31 equal courses, loosen and move the expansion link spacing device upward to the position where the reading gauge line on pin No. 31 is directly in line with the ruled graduation, indicating 7 feet 9⅝ inches; then beginning at the lower reading gauge line on pin No. 1, said line indicates the center of the first mortar joint; reading gauge line on pin No. 2, would indicate the center of the second mortar joint, and so on, upward, to and including pin No.

31, which would be the last course of brick required to fill said space

Having fully described my improved story-pole device, what I claim as new and desire to secure by Letters Patent is:—

1. A story-pole combination of the character described, comprising a casing provided with longitudinal, communicating grooves, spaced apart within said casing; a grooved story-pole rule, adapted to engage the upper groove of said casing in a sliding manner; numerous expansion spacing links and pins pivotally attached to each other and adapted to engage the lower casing groove in a sliding manner, the lower end of said spacing links being pivotally attached to the lower end of said casing, the upper end of said spacing links being adjustably attached within the groove of the story-pole rule, and means for adjusting and clamping the said expansion links and story-pole rule in their desired relation to each other, within said casing, as shown and described.

2. A story-pole combination of the character described consisting of a casing provided with two longitudinal communicating grooves spaced apart within said casing; a grooved story-pole rule adapted to engage the upper casing groove in a sliding manner; numerous expansion spacing links and pins pivotally attached to each other and adapted to engage the lower casing grooves in a sliding manner; numerous spacing pins spaced equally apart and pivotally engaging the expansion links, and provided with reading gauge lines on the lower arc of the spacing pin heads, and spacing numerals upon the surface of the spacing pin heads adjacent to the reading gauge line, as described and for the purposes set forth.

3. The combination within a casing, provided with longitudinal communicating grooves; an adjustable, grooved story-pole rule, adapted to engage the upper groove of said casing in a sliding manner; numerous expansion spacing links pivotally attached to each other and provided with reading gauge pins, adapted to engage the communicating grooves within said casing; a graduated measuring scale reading upward on the surface of said casing, and a graduated measuring scale reading downward on the surface and edge of the story-pole rule, and means for adjusting and clamping the said story-pole rule and the spacing link devices within said casing, as shown and for the purposes set forth.

In testimony whereof I affix my signature.

CLAUDE S. TETRICK.